

water, which they fetch wholly from Springs, whereof the Country is so full, that there is not a house but hath one nigh the door.

Advertisement concerning the Quantity of a Degree of a Great Circle, in English measures.

Some while since an account was given * concerning the *Quantity of a Degree of a great Circle*, according to the tenour of a

* *Sic N. 112, and N. 124 of this tract.* printed French Discourse, entituled *De la Mesure de la Terre*. The Publisher not then

knowing what had been done of that nature here in *England*, but having been since directed to the perusal of a Book, composed and published by that known Mathematician *Richard Norwood* in the year 1636, entituled *The Seaman's Practice*, wherein, among other particulars, the compass of the *Terraqueous Globe*, and the *Quantity of a Degree* in *English* measures are deliver'd, approaching very near to that, which hath been lately observ'd in *France*; he thought, it would much conduce to mutual confirmation, in a summary *Narrative* to take publick notice here of the method used by the said *English* Mathematician, and of the result of the same; which, in short, is as follows:

A. 1635 the said Mr. *Norwood*, Reader of the Mathematicks in *London*, observ'd, as exactly as he could, the Summer-Solstitial Meridian Altitude of the Sun in the middle of the City of *York*, by an Arch of a Sextant of more than five foot *radius*, and found it to be 59 deg. 33'. And formerly (vid. A. 1633.) he had observ'd the like Altitude in the City of *London* near the *Tower* to be 62 deg. 1'. Whereupon he actually measured, for the most part, the way from *York* to *London* with Chains, and where he measur'd not, he paced it, (wherein, *he saith*, through custom he usually came very near the truth;) observing all the way he came, with a *Circumferentor*, all the principal Angles of position or windings of the way, with a competent allowance for other lesser Windings, Ascents and Descents; not laying these down by a *Protractor* after the usual manner, but framing a *Table* much exacter and fitter for this purpose; as may be seen in the *English* book it self. And by this Method and Measure he found the Parallel of *York* from that of *London* to be 9:49 chains, every chain being six poles or ninety nine feet, 16½ *English* feet to a Pole. Now, these 9:49 Chains being equal to 2 deg. 28'. (the aforesaid Latitude between those two Cities) a little calculation makes it appear, that *one Degree* of a Great Circle, measured on the Earth, is 367196 of our feet, *numero rotundo* 367200, or 22254 Poles; which make 556 Furlongs and 14 Poles,

14 Poles, or $69\frac{1}{2}$ English miles and 14 Poles; 8 Furlongs to a mile, and 40 Poles to a Furlong. Which being compared to that measure of a Degree, which is deliver'd in the above-mention'd French Discourse, will be found to come very near it, they finding 73 miles *terre*, at 5000 feet to an English mile, which make 365000 feet; whereas the $69\frac{1}{2}$ English miles and 14 Poles, found by Mr. *Norwood*, amount to 367200 feet, reckoning 5280 feet to an English mile, as the true measure of it is; whence the difference between these two measures appears to be no more than 2200 feet, which is not half an English mile by 440 feet.

If any one desire to know further the whole *Circumference*, as also the *Diameter* and *Semidiameter* of the said Terraqueous Globe, according to this measure, he will easily find,

The Circumference to be 25056 *terre*.

The Diameter, 7966

The Semidiameter, 3983

Observations made of the late Solar Eclipse on the first of June, 1676. st.v.

One, by *Francis Smethwick* Esquire, as followeth:

I *Nitium deflectionis Westmonasterii h.7. 50'. 2 post med. noctem Finis, h 9. 54 $\frac{3}{4}$. 5 Junii 1. 1676.*

Totius Eclipsis duratio, hora 2. 4 $\frac{3}{4}$.

Tempus observatum fuit cum horologio oscillitario, vibrante minuta secunda, & correcto per observationes. Tubus adhuc fuit bona nota, pedum 7 $\frac{1}{2}$.

The other, by *Mr. Colson* at *Wapping, near London*, as followeth;

<i>Temp. juxta horol. scilicet.</i>	<i>Phases.</i>	<i>Solis alt.</i>	<i>Tempus correct.</i>
h. , "		0	h. , "
7.34.50		22.46	7.36. 0
7.37.14		33.10	7.38.40
7.39.10	dig.	33.30	7.40.48
7.50.40		—	7.51.51 <i>Tubo optico estim.</i>
8. 8.34	1 $\frac{1}{4}$	—	8. 9.45 <i>Tubo optico mensur.</i>
8.17.25	2 $\frac{1}{2}$	—	8.18.36
8.27.10	3 $\frac{1}{2}$	—	8.28.21
9.39.—	1 $\frac{1}{2}$	—	9.40. — <i>Tubo estim.</i>
9.43.—	1 $\frac{1}{4}$	—	9.44. —
9.48.—	2	—	9.49. —
9.54.25	non finita	—	9.55.36
9.55.55	finita.	—	9.57. 6
4.26. 5	<i>Solis alt.</i>	32.10	4.26.56
4.28.58		31.53	4.29.52
4.31. 21		31.31	4.32.16